

### **ABSTRACT OF THE DISCLOSURE**

To provide an angle sensor which can equalize the magnetic flux distribution while using inexpensive magnets manufactured easily and which can reduce the detection error even if the relative position between the magnetoelectric conversion element and the magnet changes. The permanent magnets M1a, M1b, M2a, M2b each of which is rectangular solid are fixed to the yoke 13 of the rotational angle displacement sensor 11. The permanent magnets M1a, M1b are separated from each other with a clearance L. The permanent magnets M1a, M1b are magnetized in such a manner that the side fixed to the flat wall portion 15a of the yoke 13 is N pole and that the side opposing to the fixed surface side is S pole. Further, the permanent magnets M2a, M2b are separated from each other with a clearance L. The permanent magnets M2a, M2b are magnetized in such a manner that the side fixed to the flat wall portion 15b of the yoke 13 is S pole and that the side opposing to the fixed surface side is N pole.

## **Explanation of Reference Characters**

11, 21, 31 • • • rotational angle displacement sensor as angle sensor

12 • • • rotational axis portion as a rotational member

13, 37 • • • yoke

13a • • • tubular portion

15a, 15b • • • flat wall portion

16, 39, 55 • • • Hall element as a magnetoelectric conversion element

34 • • • rotational axis portion as a rotational member

38 • • • groove as a magnetic flux density distribution correction portion

41, 42, 43 • • • circular groove as a magnetic flux density distribution correction  
portion

45 • • • yoke as a magnetic flux density distribution correction portion

53a • • • cylindrical portion

M1a, M1b, M2a, M2b, M11a, M11b, M12a, M12b, M • • • permanent magnet